Claims

[c1] A panel having intrinsic columnar support and intrinsic means for facilitating placement of the panel for tilt-up wall construction of a high strength structure, comprising:
a concrete construction panel, including means for securing the panel to a footer located at the bottom of the panel;
a plurality of intrinsic columnar supports in each panel, comprising means for reinforcing the supports centrally located within the supports; and
means for facilitating the placement of the panels in cooperative connection with the means for reinforcing the supports.

[c2] The panel of claim 1, wherein the means for reinforcement comprises a plurality of vertical reinforcement bars.

[c3] The panel of claim 2, wherein the means for securing the panel comprises a weld plate on an inside face of the bottom portion of the panel, and
an extension of at least a portion of the vertical reinforcement bar below the bottom of the panel.

[c4] The panel of claim 3, wherein the extension of the vertical reinforcement bar comprises approximately six inches of a number 8 reinforcement bar.

[c5] The panel of claim 3, wherein the panel further comprises one or more weld plates located generally at the top of the intrinsic columnar supports.

[c6] The panel of claim 1, wherein the means for facilitating is located approximately two-thirds up the height of the panel.

[c7] The panel of claim 4, wherein the means for facilitating is located approximately two-thirds up the height of the panel.

[c8] The panel of claim 7, wherein the means for facilitating is at least one receptor for a lifting eyelet, whereby the panel is positioned by a means for lifting the panel using the extension of the reinforcement bar and at least one lifting eyelet located within the receptor as lifting points.

[c9] The panel of claim 1, further comprising at least one weld plate located on the left side and the right side of the panel.

[c10] The panel of claim 1, wherein the sides of the panel are chamfered to accommodate one or more spacers between panels.

[c11] The panel of claim 1, wherein the panel is approximately 12 feet long and approximately 30 feet high, and the columnar supports are approximately every four feet across the panel.

[c12] A method for building a tilt-up wall structure, comprising the steps of:
forming a first panel and a second panel, each panel comprising:
at least one chamfered side; and
a plurality of reinforcement bar extensions at intervals on the bottom of each panel;
providing at least one footer with holes complementary to the extensions;
filling the holes with grout;
placing each panel on the footer so that the extensions are located within the holes.

[c13] The method of claim 12, further comprising the step of inserting shims of high compressive strength between the footer and the panel before the step of placing the panel on the footer.

[c14] The method of claim 12, wherein at least a portion of the grout in the holes is displaced by the extensions so that the grout bonds the rods of the panel to the footer and seals the projections against corrosion.

[c15] The method of claim 12, further comprising the step of:
placing at least one pin on a side of the first panel;
placing the second panel adjacent to the pin; and
filling space formed between the first panel and the second panel above the pin with an appropriate material.

[c16] The method of claim 15, wherein the first panel and the second panel each further comprise metal plates located at least approximately halfway up the

chamfered side, further comprising the step of welding the plates together before the step of filling the space.

[c17] The method of claim 16, further comprising the step of caulking the space between the first panel and the second panel after the step of welding the plates.

[c18] The method of claim 15, wherein the pin comprises a material of high compressive strength.

[c19] The method of claim 15, wherein the appropriate material comprises at least one of the following group: epoxy, caulk and grout.

[c20] A columnar insert for inclusion between the chamfered sides of two adjacent panels in a structure, comprising a faceted portion with facets complementary to chamfering on the sides of the panels;
an inner arm connected to the faceted portion;
an outer T-shaped form connected to the faceted portion on the opposite side of the portion to the inner arm.

[c21] The insert of claim 20, wherein the faceted portion is hollow.

[c22] The insert of claim 21, wherein the inner arm is hollow.

[c23] The insert of claim 22, wherein the base of the outer T-shaped form is hollow.